

MISSOURI CONSERVATIONIST

VOLUME 84, ISSUE 9, SEPTEMBER 2023
SERVING NATURE & YOU





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JEWELWEED: ROB ROUTLEDGE/SALUT COLLEGE BUGWOOD.ORG

MISSOURI
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ON THE COVER

An American robin splashes around in a stream.

© NOPPADOL PAOTHONG
840mm lens, f/5.6
1/800 sec, ISO 1600

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Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

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NIGHT FISHING
Fishing in the Dark [Page 10], in the July issue of the Missouri Conservationist was an enjoyable deviation from the familiar ways to fish for panfish and bass. Thank you for a very interesting article.

Don Davis
via email

UP FRONT

I was 4 years old when the first *Missouri Conservationist* was published. I'm now 88, and I think I have read, or at least looked at the pictures of, most of them. Lately, I go directly to *Up Front* by Director Sara Parker Pauley. I enjoy her personal outdoor adventures and her highlighted conservation areas. Our magazine has never been better.

John Gnagi St. Louis



RESTING IN PEACE WITH NATURE

I always enjoy reading the *Conservationist*, but I especially appreciated the article *Resting in Peace with Nature* [Page 21] in your August issue.

The voluntary work of Shelley and Raphael Morris in cleaning up Greenwood Cemetery was very inspiring.

Thanks should be given to them for their dedicated work, to Erin Shank for realizing the potential of conservation benefits of the cemetery, and to MDC for funding AmeriCorps work teams to clean up the invasive vegetation.

Congrats on a job well done.

Karen Emge St. Charles

WATCHABLE WILDLIFE

Photos are always a highlight in the *Conservationist*, but Danny Brown's stories accompanying his photos in July's *Watchable Wildlife at Water's Edge* [Page 14] really made my morning. I'm rarely able to capture pictures of the wildlife I see, but I'm glad people like Danny are willing to put the work in to show us these gorgeous critters and talk about how they found them. It makes me even more excited to get out there again soon.

Kyle Joggerst Perryville

CORRECTION

In the *Missouri Master Naturalist Program* article [July, Page 20], Ben Caruthers of the Springfield Plateau Chapter was misidentified as Beth Caruthers.

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The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.



**Want to see your photos
in the Missouri Conservationist?**

Share your photos on Flickr at flickr.com/groups/mdcreaderphotos-2023 or email Readerphoto@mdc.mo.gov.

**1**

1 | Castor River Shut-Ins by **Irv Cobb**, via Flickr

**2**

2 | Goggle-eye from Niangua River by **Steven Pflugradt**, via email

3 | Northern watersnake by **Michael Woods**, via Flickr

**3**

**Want another chance to see
your photos in the magazine?**

→ In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.

TAYLOR LYNN PHOTOGRAPHY



Up Front

with Sara Parker Pauley

✖ **Identity is a powerful thing.** Even before my husband retired after more than 30 years in law enforcement, when asked what he did for a living, more often than not he would say he was a tournament bass fisherman. I found that humorous as tournament winnings certainly didn't pay the bills, but I appreciate that he sees himself as a fisherman — that's who he is. (Learn more about bass fishing on Page 17.)

According to a 2023 Special Report on Fishing, he's not alone in his interest. The U.S. saw a 4 percent increase in 2022 over 2021 in numbers of people fishing, including 19.8 million women, which was a 40 percent increase over the past decade.

Rest assured, MDC is working to create the best environments for fish and anglers to flourish. One example is a partnership between MDC, the National Fish Habitat Partnership, and Bass Pro Shops to improve habitat in many Missouri lakes, including Table Rock, Bull Shoals, Smithville, Mark Twain, and Norfolk lakes. Over the last 15 years, more than 2,200 habitat structures have been installed and another 700 structures are soon to be replaced.

"And don't forget MDC's MO Fishing app," says MDC Fisheries Chief Bruce Drecktrah. "Through the app, anglers can navigate to all of these installed habitat structures."

On occasion I ask my husband when he'll be ready to hang up the bass tournaments. Silly question really, as I already know the answer. He'll keep fishing tournaments until he physically can't anymore because that's what tournament fishermen do.

SARA PARKER PAULEY, DIRECTOR

SARA.PAULEY@MDC.MO.GOV

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Nature LAB

by Dianne Van Dien

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

FISHERIES MANAGEMENT

Monitoring Crayfish

Until a few decades ago, no one knew how crucial crayfish are to the food web. But when an MDC study revealed that crayfish make up 80 percent of the diet of rock bass and 75 percent of the diet of smallmouth bass, surveys were launched to dig deeper into crayfish biology.

"Crayfish aren't just important to sport fish," explains Research Biologist Bob DiStefano. "Across North America, more than 300 different species have been observed eating crayfish."

Even bears and great horned owls eat them. Crayfish, in turn, eat many different things — insects, fish, plants, decaying wood and leaves, as well as microscopic plants and animals.

"Almost no other animal feeds at so many levels," says DiStefano. But MDC's surveys have uncovered more than crayfishes' place in the food web.

"Before we started these studies," says DiStefano, "a lot of people assumed that all crayfish species use the same types of habitats. But we found that's not true. Crayfish are varied just like any other group of organisms."



Painted devil crayfish

Burrowing crayfish, like the painted devil crayfish, tunnel down to the water table on land and spend most of their lives inside their self-made burrows, using underground water for moisture.

Survey data uncover life cycles, habitat needs, and status of Missouri's crayfish species

Some species need fast-flowing water, others slow. Some prefer standing water, some deeper water, some shallow. The type of stream bottom they prefer (rocky, muddy, sandy) can also vary from species to species. Even adult and juvenile crayfish use different parts of the same stream.

When DiStefano began this work in 1990, about 25 crayfish species were known to live in Missouri. Today that number is 38. Understanding the life history, abundance, distribution, and habitat needs of each is essential for effective management. MDC staff continue to unravel these details for more species, with a focus on species of conservation concern.

Missouri's Crayfish at a Glance

By the Numbers

- More than 400 species in North America
- 38 species in MO
- 30 species found in the Ozarks
- 27 species of conservation concern
- 8 species are endemic (found only in MO)

By Primary Habitat

- Stream – 22 species
- Standing water (swamp, marsh, ponds, lakes) – 6 species
- Burrowing – 7 species
- Cave – 3 species

The longpincer crayfish is Missouri's largest crayfish, growing to 6 inches or more in length.



Shufeldt's dwarf crayfish rarely grows much longer than an inch.

In Brief

News and updates from MDC



APPLY FOR MANAGED WATERFOWL RESERVATIONS

MDC WILL OPEN THE APPLICATION PROCESS SEPT. 1

► The pre-season reservation period for MDC's managed waterfowl hunts will run Sept. 1-18 with results posted Oct. 1. The in-season weekly drawings will take place on Monday afternoons with a seven-day application period opening the Tuesday before and closing the Monday of the draw at 3 p.m.

Missouri residents and qualifying nonresidents, such as students from out of state or members of the military stationed in Missouri, can apply online for a reservation to guarantee them an opportunity to hunt on a specific day on a specific area. Residents and nonresidents can also arrive at a managed waterfowl hunting area the morning they wish to hunt and wait in line for the possibility of getting a hunting spot.

Applicants for waterfowl reservations must have their required permits to apply and their Federal Duck Stamp to hunt.

MDC offers managed waterfowl hunting on more than a dozen conservation areas specially managed with a focus on wetlands. Hunters can apply for a reservation or participate in a daily morning drawing for opportunities to hunt at these areas. MDC also offers waterfowl hunting on other conservation areas. In addition to our areas, Missouri offers waterfowl hunting opportunities at numerous other public and private locations around the state.

continued on Page 6 »



Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov or call 573-522-4115, ext. 3848.

Q: What species of bird is this?

→ This is a female or immature magnolia warbler. This species' notable identifying characteristics include the yellow feathers extending on the sides and belly; brown, faint, dark streaks along the sides below the wings; and the pale gray band between the throat and the belly. Other traits to look for include a gray head, a white eye ring, and two white wingbars. Both sexes have a unique tail pattern — white at the base and black at the tip. Adult males are bright yellow, have a black mask, a black neck band, black streaking on the chest and sides, and a bold white wingbar.

Fall warblers are a challenge for even seasoned birders to identify, so photo-documentation is helpful. The pattern under their tail is diagnostic, so keep an eye out for that. Also, listen for their short song, a whistled *weta, weta, WETA*, which generally becomes louder toward the end.



Magnolia warbler (female)

Magnolia warblers primarily eat caterpillars, insects, and spiders. They tend to forage on the outer edges of branches, searching the undersides of needles and leaves for prey. Because they are committed insectivores, they do not visit feeders and may only stop off in your yard during migration, but you can still provide habitat for them by landscaping with native trees and shrubs.

These birds breed in dense stands of conifers further north.

As they migrate south to Latin America and the Caribbean, they forage along forest edges, woodlots, and parks. They often migrate in groups, but it's unusual to see more than one warbler species flocked together in a tree.

Q. This is the first time I have ever witnessed black acorns falling from oak trees. Can you explain why this occurs?

→ Scientists aren't completely certain why these acorns have a black appearance.

However, it's possible the black coloration may have resulted from the drought conditions Missouri has experienced in recent years. It is conceivable dry weather intensified the tannins in the acorns, which otherwise look robust and not desiccated. And when confined in an envelope — a more-humid environment — these acorns returned to a normal brown, our forest entomologist reported.



MANAGED WATERFOWL HUNT (continued from Page 5)

This fall, our waterfowl reservation system will offer 50 percent of daily hunting positions for the managed-hunt areas through online reservations. Of the 50 percent of spots through online reservations, half will be for pre-season applications and half will be allocated during a weekly in-season application period. The remaining 50 percent of spots will be held for hunters who participate in the daily morning drawing and wait in the "poor line" for the possibility of getting a hunting spot.

Successful pre-season and in-season reservation applicants will be notified after their respective draws via email or text message with their hunt date, location, and pill assignment. "Pills" designate the order hunting

parties select their hunting locations on the area. The lower the number, the sooner hunting parties get to select their hunting location.

Only one member from each hunting party will be allowed to have a staff member pull a pill for their respective party. Residents and nonresidents can hunt with a reservation holder and hunting parties are limited to a maximum of four people.

Hunters with disabilities can apply to use ADA hunting blinds through the online reservation system during the same timeframe as the preseason application period. ADA blinds that are not selected and allocated during the preseasong drawing will be placed in the weekly in-season draws.

For more information, visit short.mdc.mo.gov/Zj5. Information is also available in the *Migratory Bird and Waterfowl Hunting Digest 2023-2024*, available where permits are sold or online at short.mdc.mo.gov/4SZ.



White-lined sphinx moth

Other observers note a tree producing black acorns likely is stressed. When an oak is struggling, immature seeds, darkly colored, die in mid-growth. These stunted acorns are shaken from the tree with high winds, but green, healthier acorns cling to the tree's limbs and maintain their viability.

Q. What moth is this?

→ This is a white-lined sphinx moth (*Hyles lineata*). This moth has a narrow tan band running from the

wing tip to the base on the upper side of its forewing, and white streaks along the veins.

This day-flying sphinx moth is a common site in gardens and natural areas. As caterpillars, they feed on a wide variety of plants including evening primrose, wild grape, elm, grape, tomato, and Virginia creeper. As adult moths, this species is even less selective, and will visit a variety of flowers to collect nectar. Learn more about these beautiful moths at short.mdc.mo.gov/4mc.

What IS it?

Can you guess this month's natural wonder?

The answer is on
Page 9.



Corporal Kevin Powell

ADAIR COUNTY
CONSERVATION AGENT
offers this month's

AGENT ADVICE

Head to a creek and take a walk! It's a great way to enjoy nature, especially with kids, while learning through exploration. Go after a rain, so water is flowing. If that's not possible, find shallow pools that are easily waded. There you will find minnows, crawdads, and other aquatic life to observe. You may also find tracks to follow and identify. It's an activity that requires little equipment — a backpack with snacks and water, a dip net, and an ID book, if you wish. Bring a trash bag to pick up trash and to pack out your own litter. September is a great time to plan a creek walk. To find a conservation area near you, visit short.mdc.mo.gov/Z9o.



SPECIES OF CONSERVATION CONCERN

STATE ENDANGERED

Southern Great Plains Bumblebee

by Steve Buback

The Southern Great Plains bumblebee has been petitioned for listing under the Endangered Species Act. Historically, it was found throughout Missouri's tallgrass prairie. The prairies' floral diversity provided a range of bloom times and types that allowed these bumblebees to collect sufficient pollen to survive. This bumblebee is now limited to scattered prairies in southwest Missouri, the Loess Hill prairies in northwest Missouri, and the few remaining prairies in St. Louis.

WHY IT'S IMPERILED

This bumblebee has declined due to the loss of the original tallgrass prairies, invasive species, neonicotinoids, and diseases spread from captive bumblebee populations.

MDC RESTORATION EFFORTS

MDC is working to understand where this bumblebee occurs and how populations are faring. The Missouri Bumblebee Atlas (mobumblebeeatlas.org) asks volunteers to capture and photograph bumblebees, while MDC works with Missouri State University to study the interaction between public land management and bumblebee populations.

WHAT CAN YOU DO?

Protect remnant prairies, plant native plants, and use pesticides sparingly. Plants, such as bee balm, wild indigo, and coneflowers, provide bumblebees with needed protein and fats and help fight off infection and process pesticides. The Bumblebee Atlas will be enrolling new volunteers in spring 2024. Individual sightings can be submitted at bumblebeewatch.org.

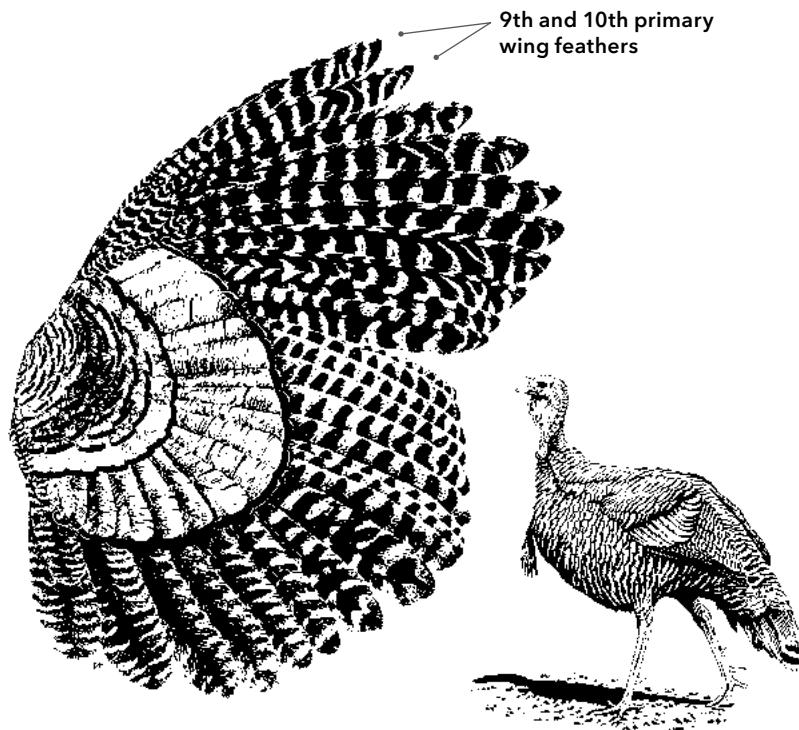
TURKEY HUNTERS: WE WANT YOUR FEATHERS

MDC is again asking Missouri turkey hunters to save and share feathers from their harvested wild turkeys. These feathers will help improve research models used to monitor turkey population trends and estimate turkey numbers across the state. Hunters who successfully harvest a turkey during either the archery turkey season or fall firearms turkey season can voluntarily submit feathers from their turkeys at no cost.

After Telechecking your turkey, retain the ninth and 10th primary wing feathers and three to five breast feathers (see diagram). Once you have signed up for the program through the link below and Telechecked a turkey, MDC will mail you a feather submission packet containing additional instruction and a postage-paid envelope for the feathers to be placed inside and mailed back. You will receive one packet for each turkey you harvest during the fall seasons, so please be sure to keep each turkey's feathers separate and labeled with the correct Telecheck ID.

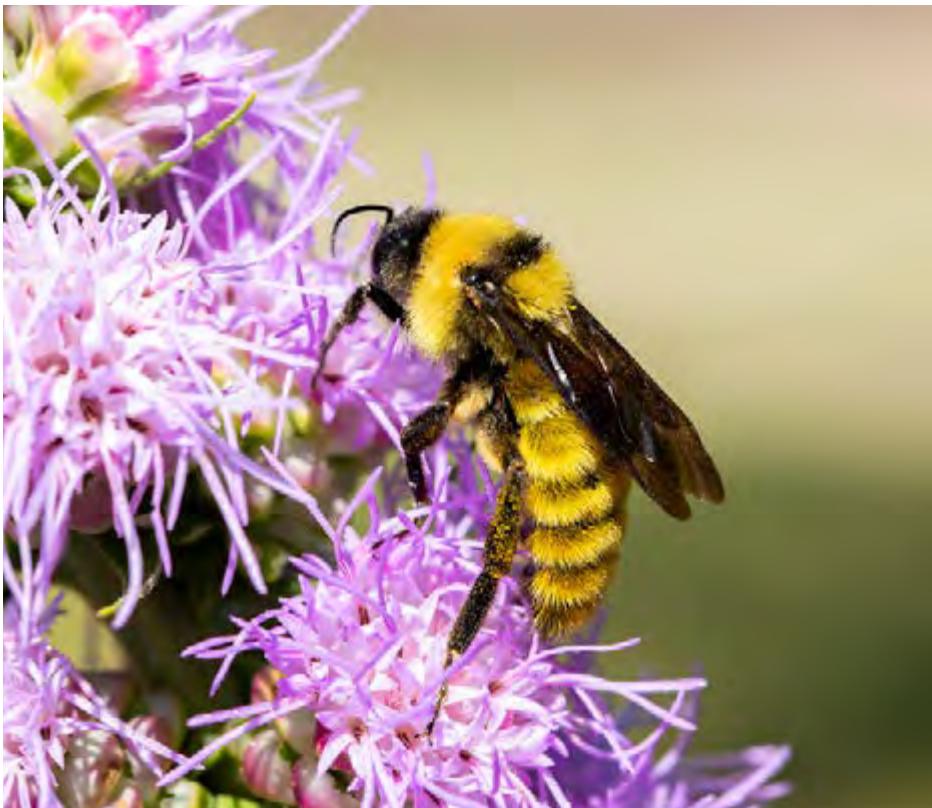
For a feather submission form and more information, visit short.mdc.mo.gov/4mo.

If you have questions, email MDC's Wild Turkey Management Program at wildturkey@mdc.mo.gov.



WHAT IS IT? AMERICAN BUMBLEBEE

Bumblebees are large, fuzzy bees with a black and yellow, usually banded, coloration. Bumblebees are commonly seen foraging among flowers for nectar. They use their hind legs to carry pollen back home to feed their young. The American bumblebee (*Bombus pensylvanicus*) is threatened, and its population has plummeted drastically due to habitat loss, climate change, and widespread use of bee-killing pesticides.



Precious Sunshine

An aerial photograph capturing the beauty of Indian Trail Conservation Area during autumn. The landscape is a vibrant tapestry of fall colors, with trees displaying shades of orange, yellow, and red. A large body of water, possibly a lake or river, cuts through the scene, its surface calm and reflecting the surrounding colors. The terrain appears to be a mix of forested hills and open wetland areas.

AUTUMN'S SHORTENING DAYS PLACE A PREMIUM ON GETTING OUTDOORS

Indian Trail Conservation Area

Beautiful fall colors overtake Indian Trail Conservation Area.

David Stonner

8.80mm lens • f/5 • 1/200 sec



I cannot endure to waste anything so precious as autumnal sunshine by staying in the house.

— Nathaniel Hawthorne

Autumnal sunshine is a hot commodity. After the calendar hits Sept. 23, the first day of fall (also known as the autumnal equinox), nighttime hours start to exceed the number of daylight hours. The sun begins rising later and setting earlier.

There is no time to waste — get out and discover nature! There's a lot to discover during Missouri's fall season.

Missouri is blessed with a great variety of trees, shrubs, and woody vines. In fall, their leaves turn beautiful shades of red, gold, and orange at different times, so Missourians enjoy a fall color season that may last six to eight weeks.

Even treeless areas, such as prairies and roadsides, display beautiful shades of gold, copper, purple, olive, and auburn with fall wildflowers, shrubs, and grasses.

Don't waste another precious second. Get out there, embrace the cool days and crisp nights, and see what awaits you. The following pages will give you some inspiration. For more information, visit our *Fall Color* page online at short.mdc.mo.gov/ZVf.

Metallic Green Sweat Bee

A bee climbs over an aster flower collecting pollen. **Noppadol Paothong**
100mm lens • f/14 • 1/200 sec

Rough Greensnake

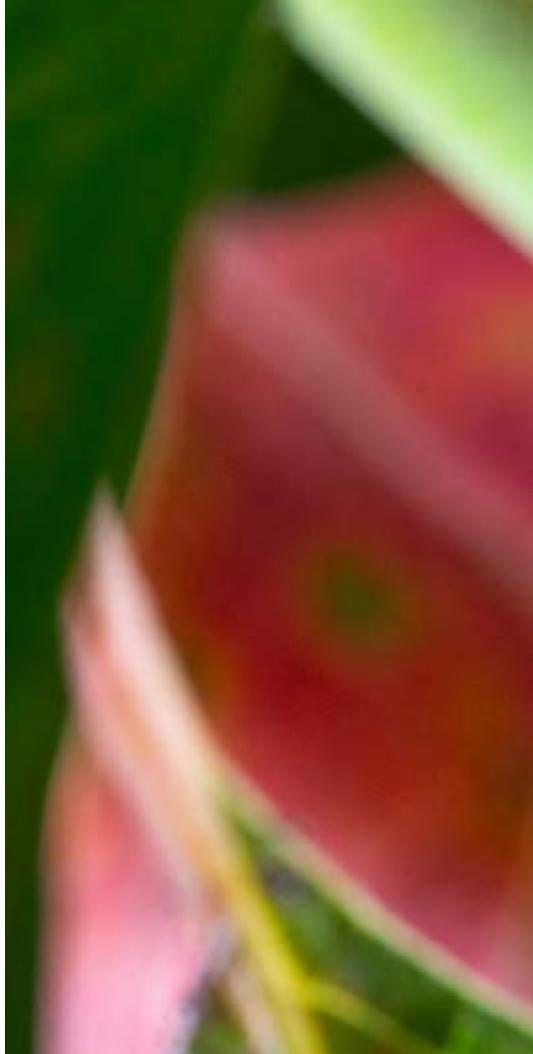
A snake tries to camouflage itself within green leaves. **Noppadol Paothong**
100mm lens • f/11 • 1/60 sec

Fall Sugar Maple Leaf

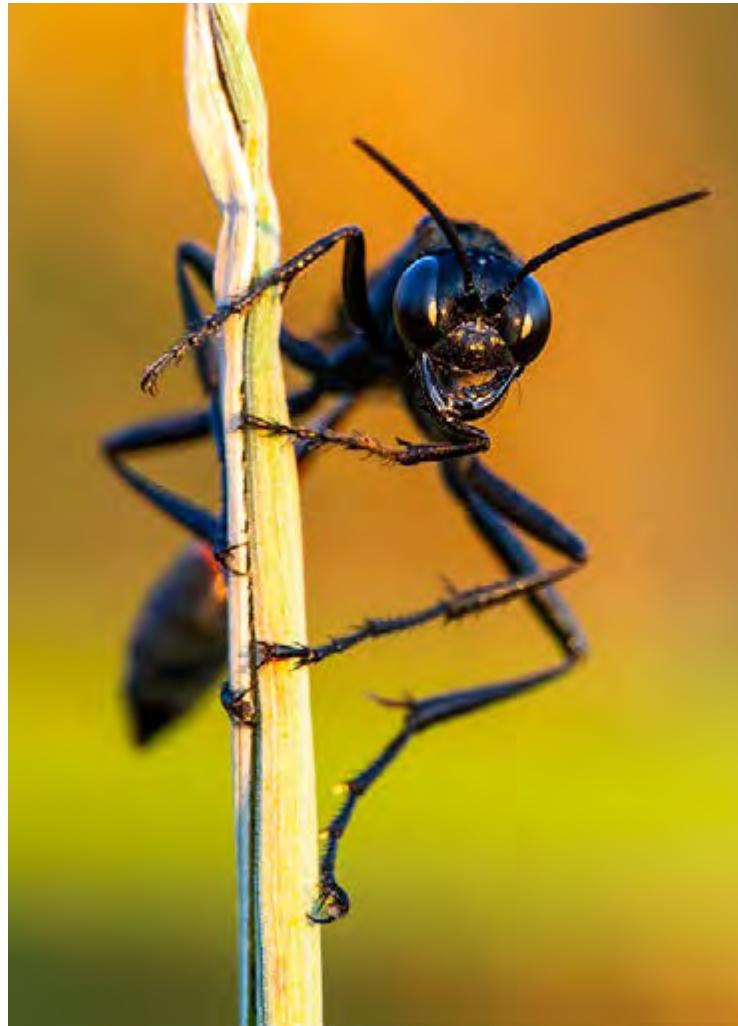
A fall leaf lays where it fell upon the ground. **David Stonner**
70mm lens • f/14 • 0.5 sec

Mingo River

Fall colors shine boldly on the river banks. **David Stonner**
70mm lens • f/8 • 0.4 sec









Gray Treefrog

A frog casually sticks to the side of a tree.

Noppadol Paothong

180mm lens • f/4 • 1/160 sec

Thread-waisted Wasp

A wasp lands and walks along a stem to reach its destination.

Noppadol Paothong

180mm lens • f/11 • 1/40 sec

Golden Crayfish

Two crayfish journey across and over rock blocking their path.

Noppadol Paothong

500mm lens • f/4 • 1/125 sec

White-tailed Deer

A large buck makes a path through a field and takes a moment to view its surroundings.

David Stonner

1000mm lens • f/8 • 1/400 sec



Collared Lizard

A colorful lizard sits and sunbathes on a large rock.

Noppadol Paothong

500mm lens • f/13 • 1/250sec

Common Buckeye

A butterfly lands upon a scarlet red fall leaf.

Noppadol Paothong

100mm lens • f/4 • 1/800 sec



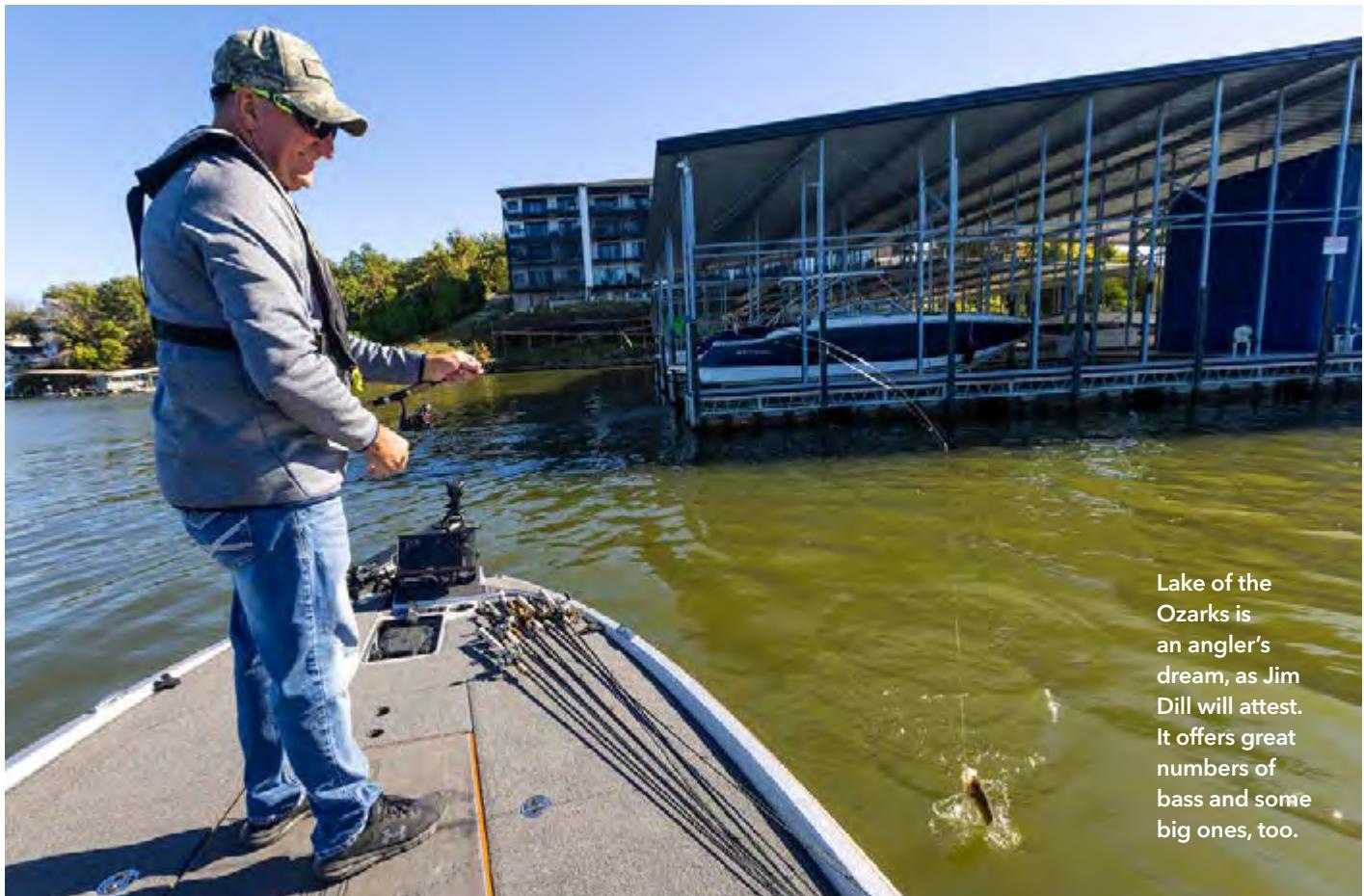
Check out *Drinking the Wild Air* in the June Missouri Conservationist for photos highlighting the summer season.

BIG BASS ATTACK

DESPITE ITS REPUTATION AS A BUSY BOATING DESTINATION, LAKE OF THE OZARKS IS
STILL A HAVEN FOR BASS FISHING

by Brent Frazee | photographs by David Stonner





Lake of the Ozarks is an angler's dream, as Jim Dill will attest. It offers great numbers of bass and some big ones, too.

Jim Dill squeezed his bass boat into a narrow opening behind a complex of docks at Lake of the Ozarks and launched a sidearm cast under a set of cables.

"There has to be a bass hanging out in here," he said as he sputtered a topwater bait across the protected water.

The lure made it most of the way back to the boat. Just when Dill was getting ready to pull it out of the water, a big bass attacked, spraying water in all directions.

The fight was short-lived and Dill soon used a net to scoop up the big largemouth.

"That fish must have been following my bait," Dill said as he admired his catch before releasing it.

In a nearby boat, Dill's wife, Denise, watched the show and asked, "How big?"

"About 5 pounds," Dill responded.

Welcome to Lake of the Ozarks, a venerable body of water that never

really shows its age when it comes to bass fishing.

When construction was completed in 1931, it was the largest manmade reservoir in the U.S. Over the years, it became a popular playground lake, with tens of thousands of houses and cottages on the lakeshore.

Traffic is heavy both on the water and on the roads during the summer months. Surf's up when waves roll across the water and make it almost impossible to fish on weekends during June, July, August, and parts of September.

Doesn't sound like an ideal environment for a largemouth bass, which treasures a peaceful and secluded setting, does it?

To the contrary, bass thrive in that world.

"With all the boat docks on this lake, bass have plenty of places to hide," said Dill, a longtime angler on the 54,000-acre reservoir in central Missouri. "The

docks give them shade, a lot of forage, and protection.

"When they get way back under a dock, it's hard for an angler to reach them. And in the summer, with all the boats running up and down, there isn't a lot of fishing pressure anyway, unless you go out real early."

"I think that plays a part."

Largemouth bass



A BIOLOGIST'S VIEWPOINT

Samantha Holcomb, the MDC fisheries biologist who manages the lake, agrees. But she points out that the docks are only part of the equation.

Most of the reservoirs in Missouri are managed by the U.S. Army Corps of Engineers for flood control. Lake of the Ozarks is managed by Ameren Missouri for hydropower production, and recreation is one of the priorities.



Husband and wife, Jim and Denise Dill, both take people out on the water, but they take different routes to put bass in the boat.

When floodwater from Truman Lake is released into Lake of the Ozarks, it quickly flows down the big lake and is released on the other end.

"One of the main differences between Lake of the Ozarks and other reservoirs is that water levels are much less variable on Lake of the Ozarks," Holcomb said. "Water levels are usually on a slow and steady rise during the bass spawning period, then staying at full pool during the bass' juvenile stage, providing good survival of nests and good growth of juvenile fish."

The result? Consistently good fishing year after year for largemouth and spotted bass.

Surveys conducted by MDC show that 20 to 30 percent of the largemouth and spotted bass collected during samples exceed the minimum-length limit, Holcomb said.

It's little wonder that Lake of the Ozarks is considered one of the best bass lakes in the country. It might not have the giant largemouth that lakes in Texas, Florida, or Alabama do, but it has great numbers of 2- to 5-pound fish.

"It's just a great fishery," said Denise Dill, who's also an experienced angler with intimate knowledge of the Lake of the Ozarks. "You can fish it year-round and find good bass fishing.

"There are (seasonal) patterns that are pretty consistent year to year. I'm not saying there aren't challenges from time to time, but as a whole, it's a great place to be a guide."



HIS AND HERS BASS BOATS

On a sunny fall day last year, the Dills set out on one of their favorite dates — in a bass boat.

Actually, in two bass boats.

Jim worked a bluff, points, and docks from his boat; Denise cast a topwater bait and a buzzbait from hers.

"We won a tournament together last year, and the prize was a certificate for a bass boat," Denise said. "Jim already had a nice boat, so I got this one."

Casting everything from small swimbaits to larger gurling topwater lures, they caught and released about 20 bass in a variety of sizes in three hours.

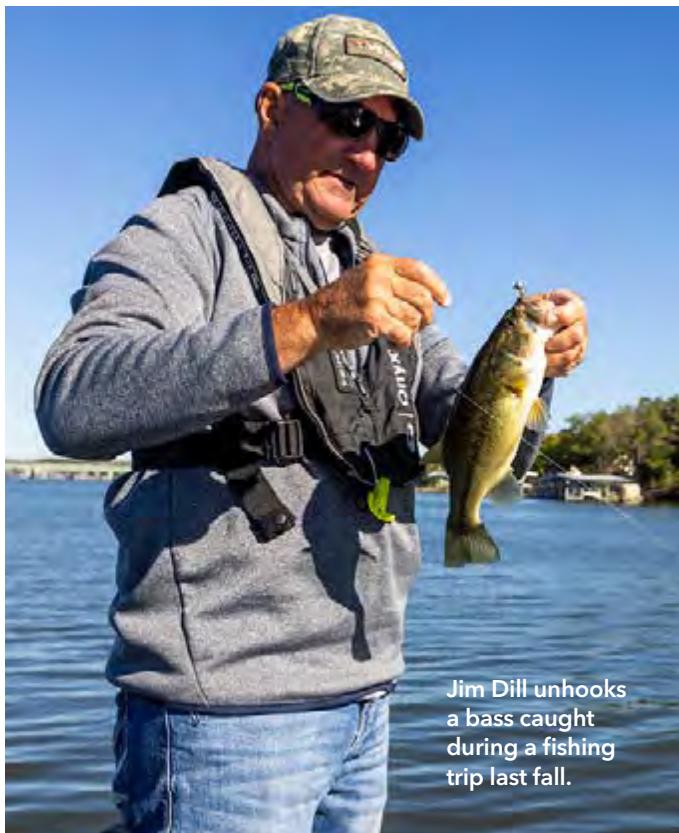
Experienced anglers and tournament partners, they both are adept at finding and catching the big ones. In fact, bass fishing played a big part in getting them together.

"When we started dating, we entered these guys and gals tournaments and it was a great way for us to get to know each other," Denise said. "When you're spending hours together in a small space, you get to know what someone is like."

The Dills got married 20 years ago, and bass fishing and Lake of the Ozarks are the central part of their lives more than ever.

Jim, with Denise, owned Crock-O-Gator lure company for 10 years. Denise was a longtime elementary-school teacher who fished in her spare time. Once she retired in 2021, she and Jim devoted more time to fishing.

"Denise has found a niche in women, retirees, and kids," Jim said. "She is great with inexperienced anglers, showing them what they need to do to catch fish."



Jim Dill unhooks a bass caught during a fishing trip last fall.



HEAVY FISHING PRESSURE

The outstanding bass fishing at Lake of the Ozarks isn't exactly a secret.

In 2022, the big lake played host to more than 525 bass tournaments — the highest total in Missouri. Add the thousands of recreational anglers who flock to the lake each year, and the bass see a lot of lures.

But the population holds up just fine in the face of that heavy pressure.

First, there is a strong catch and release ethic among seasoned anglers. Second, there are plenty of places for bass to escape the barrage of lures.

"The fish get hammered, but it's a big lake with a lot of good cover," Jim Dill said. "They have a lot of places where they can hide."

Anglers can improve their odds by getting out at key times, Dill said. He looks at late May and early June as the best time for getting lots of bites.



A husband and wife portrait: Jim and Denise Dill.

When there is current flowing across the points, as there often is when water is being released from Truman into Lake of the Ozarks, it attracts schools of baitfish. And the bass go on a feeding spree.

"The bass are coming off the spawn and they're hungry," Dill said. "They concentrate on points, bluffs, and ledges, and they're aggressive."

The Dills will use a variety of baits — plastic baits on shaky-head rigs, swimbaits, crankbaits, and topwater baits — to catch those bass.

GAUGING THE FUTURE

If last spring is any indication, the near-future looks encouraging for Lake of the Ozarks bass anglers.

Anglers reported 75-fish days during a stretch from late May to mid-June when bass were on a feeding rampage. There weren't a lot of keepers (15 inches and larger), but many fish measured from 12 to 14 inches, boding well for the next few years.

That also is encouraging for many resort owners, who view bass fishing as a money-maker.

Mom and pop resorts are disappearing at Lake of the Ozarks as times change and condominiums pop up in their place. But those resort owners who hold on are still filling rooms, and they credit bass fishing with playing a part.

"When we first bought our resort (in 2003), there were only a couple tournaments going out of here each year," said Michael Spriggs, who with his wife, Paulette, owns Point Randall Resort. "Now we'll have two or three each weekend in the spring. They're usually small tournaments — five to 30 boats. But that adds up.

"Bass fishing is definitely a draw for us." ▲

Brent Frazee was the outdoors editor for The Kansas City Star for 36 years before retiring in 2016. He continues to freelance for magazines, newspapers, and websites.



Denise Dill races across Lake of the Ozarks en route to her next fishing spot.

Crossbows



Sharenda Britts, with wildHERness, enjoys hunting with a crossbow because it puts her in the center of the action.

A TOOL THAT ADDS EXCITEMENT AND LONGEVITY TO YOUR DAYS AFIELD

by Gilbert Randolph | photographs by David Stonner



My heart pounded as I sloshed across the muddy levy, rain flashing past my headlamp. My destination was a hill, covered in mature oaks, surrounded by swamps — a place I'd come very close to harvesting my second-ever deer just days before.

Every 40 of 50 feet, I'd spook a killdeer. The little eruption of their wings and their tittering call as they tumbled away into the marsh would startle me. I could feel the blood pulse in the pits of my elbows. I gripped my borrowed crossbow tighter, reminding myself there was nothing in those mucky pools and oxbows that could really hurt me.

A cold, north wind pushed against me, and the sky was just turning slate gray when I reached the foot of the hill. I started to climb, weaving between mats of grass and bare blackberry thickets, listening breathlessly for movement, praying I hadn't spooked anything coming in.

Light dawned and a slow drizzle meant that I could slip through the underbrush almost noiselessly. I sat at the base of a tree and watched the morning woods, trying my best to disappear in the old, loose-fitting camo jacket I'd bought from a pawn shop. I decided to move.

I crept to the far side of the hill and began to walk step-by-step up its undulating side. My attention was on a little bowl where two of the ridges met. I'd spent nearly half-an-hour inching closer to a group of does nosing acorns on my last hunt, unable to close the deal in the end. Then, from out of my peripheral vision, I saw him.

A buck was cruising out in front of me at about 40 yards. I crouched and froze, putting him in the crosshairs. As a brand-new deer hunter, I'd never seen a buck at closer than 100 yards, let alone had a shot on one.

He was facing me now, feeding lightly here and there, seemingly uncommitted on his direction. Then, he lifted his head up and looked around. My heart dropped. He took two bounds back the way he came. While he was still midair on the second bound, I grunted at him. He landed and stood stock still, whipping his head to stare directly at me. I knew I only had a few seconds, so I aimed behind his shoulder and let one fly.

Before the twang of the bowstring had left my consciousness, he leapt into the air and was barreling down the ridge directly at me. Mesmerized, I could only stare as he hurtled through the brush. At about 10 yards he veered to the right and crashed into the drainage below. I was trembling with shock and tried to peer over the edge at where he'd fallen. Just in case I hadn't fatally wounded him, I loaded another bolt, shaking so badly that my teeth chattered.

I waited half-an-hour, sent Ernie — my friend and hunting mentor — a text, and then slowly worked up the ridge so I could look down into the drainage. There at the bottom, motionless, was the buck. I descended carefully, jumping the last 5 or so feet into the ditch. I held the antlers in my hands and took off my gloves, running my finger along the moss-covered beams. It was surreal, beyond anything else I'd experienced in the woods.

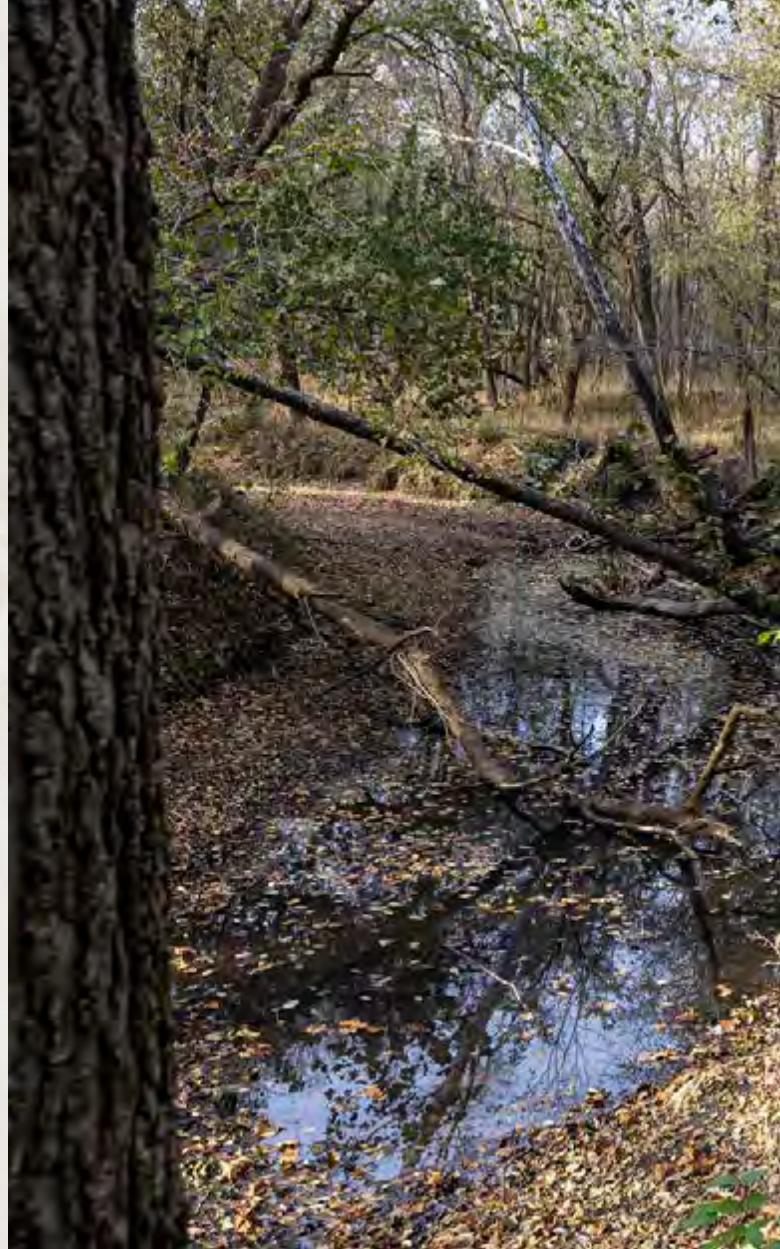
Early Adopter

John Burke, a Missouri biologist with the National Wild Turkey Federation, was an early adopter of the crossbow when it first became legal in Missouri.

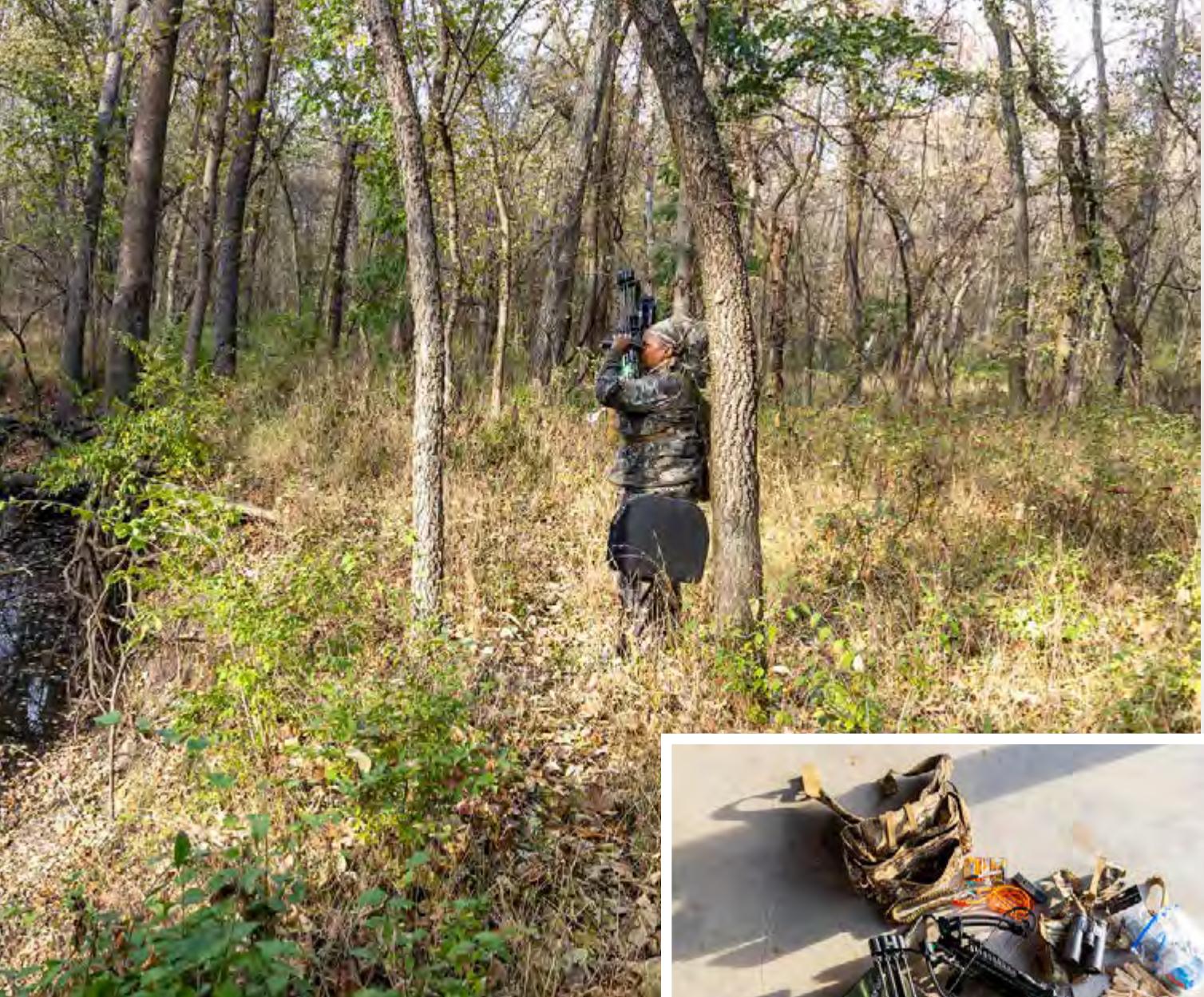
"By the time I turned 50, my eyes got so bad that I struggled mightily to shoot at any distance," Burke said. "It restored my confidence in my ability to make a humane harvest every time I released the bolt."

He said it also empowered his father to continue hunting when a compound bow became too physically difficult. Burke also shared how it changed the way he hunted.

"Most of my hunting now, because I am sitting there with head-to-toe camo, including face net and gloves, is like a turkey hunt. I can go into the field virtually anywhere and just sit against a tree near a decent trail, heavy dropping oak, or other pattern. As long as I play the wind and pay attention, I get busted very rarely and have been very successful. It adds another level of excitement when your target in some cases is literally feet away and you are right down there with them."



Britts' ability to read sign and move quietly through the woods is essential for hunting with a crossbow.



Carrying a crossbow doesn't weigh Britts down while scouting and tracking during her hunt. She can bring as much or as little gear as she likes.

Broader Set of Skills

It was this style of hunting that drew me to crossbows as well. While it's common to associate whitetail hunting with tree stands and long days spent in one location, crossbows open the opportunity for the use of a broader set of skills. If one location is not productive, a crossbow gives you the ability to still hunt while moving from spot to spot, without fussing with multiple stands or getting in a tree with a portable stand.

I also prefer to spend the time vertical archers use on practicing reps to being in the woods, foraging mushrooms and wild plants in the spring, summer, and early fall, trapping in the winter, hunting turkeys, and fishing. In fact, a large portion of my knowledge and skills that I transferred to deer hunting were learned from observing them throughout the year when I wasn't hunting. Those soft skills are arguably more important than whether you can stick an arrow in a foam target.



Hunters are left to rely on their woodsmanship skills, understanding wind direction, knowing how to move quietly through the woods, and most importantly, how to recognize sign. While you certainly use those skills hunting from a stand, ground hunting and using cover to get close to deer on your feet is a different challenge and just plain fun. The differences between still hunting and stand hunting are differences in style, not in value.

Vertical bow and crossbow hunters share a common love for the woods and the pursuit of our quarry.

"In the last four years, I have harvested two mature bucks from the ground at less than 10 yards, and one came rattling and grunting. That will get your blood pumping," Burke said.



Ground hunting with a crossbow gives Britts the flexibility to change places quickly and even spot and stalk hunt.



Easy Entry

Crossbows also significantly reduce the barrier of entry for new deer hunters. I harvested my first buck using a crossbow I borrowed from Ernie. Up until that point, deer hunting felt out of reach for me. I didn't have a rifle or live close enough to areas where I could rifle hunt. As a grad student who was working, had a family, and spent a lot of time already fishing and trapping, I didn't have the time to devote to using a vertical bow. The crossbow was the perfect avenue for me to find out why millions of people choose to spend their fall in the deer woods.

In previous decades, many people were introduced to deer hunting through rifle season. While rifle hunting still accounts for a significant majority of deer harvest in Missouri, at 188,928 in 2022, crossbows offer an entrance into deer hunting that lacks some of the drawbacks of rifle hunting. Since you don't need hearing protection when archery hunting, new hunters can get in the woods and learn how to use all their senses to find deer. The trigger flinching associated with rifles, a common issue amongst all hunters, whether they realize it, is also significantly reduced.

Affording hunting gear can also make it difficult to get new hunters afield. Entry level crossbows can be purchased for a little over \$200 and arrows and broadheads won't set you back much more than \$40-\$50. I started hunting wearing secondhand camo, purchased from a pawn shop, or whatever I could find at a discount retail shop. I couldn't afford spending hundreds of dollars on a bow and a stand. Crossbows alleviate much of the financial burden of getting into deer hunting, which after all, doesn't need to be a pursuit with a huge price tag. Part of the beauty of hunting deer in Missouri has been its accessibility. Being able to hunt big game without much money or access to land is what the North American Wildlife Model is all about.

In addition, crossbows open more access to hunting areas closer to where people live in comparison with rifles. With rapid urbanization, new hunters recruited from urban and suburban areas, and opening hunting opportunities closer to cities, crossbows offer the benefits of rifle hunting while allowing hunters to target deer in smaller plots of land.

Crossbow Success

The National Deer Association (NDA) looked at a variety of studies done on crossbow harvest success across the U.S. They found that hunters who used crossbows tended to be between five and 13 percent more successful than hunters using vertical bows. Another study in Ohio saw vertical bow hunters have a success rate of 24 percent and crossbow hunters a success rate of 32 percent. Both in the Ohio study and the NDA study, the introduction of crossbows had no negative effects on deer herds.

In fact, the NDA has also suggested that some of the use of crossbows can be attributed to hunters who previously

used rifles, but now live in areas where rifle hunting is not safe or readily accessible. As in the case of John Burke, it's likely that many hunters simply transition from one tool to another in hopes of a more consistent method or simply because they prefer hunting with crossbows.

It's clear that crossbows offer a valuable entry into the world of hunting. For generalists like me, it allows me to stay on the ground, stay active, and use the skills I've learned trapping, foraging, and small game hunting to pursue deer. For new hunters, it means they can fall in love with deer hunting without many

of the financial, physical, and geographical barriers that would keep them from rifle hunting and vertical bow hunting. For those hunters who want to take their archery skills to the next level, crossbows are an entry point to dive further into the world of bowhunting. Crossbows should be embraced as a hunting method as valuable as any other out there. ▲

Gilbert Randolph is a writer and an avid outdoorsman. When he's not creating stories in the digital space, he's exploring nature and sharing it with people.



All the basic rules of archery apply to crossbows. Knowing your effective range and having a stable rest will go a long way in ensuring a clean, quick harvest.

Get Outside in SEPTEMBER



→ Ways to connect with nature

Don't Forget the Fall Flowers

Much of our early fall color in Missouri is due to flowers. Occurring along roadsides, native wildflowers — such as goldenrod, ironweed, thoroughwort, sunflower, native aster, crownbeard, and rosinweed — bloom among grasses.

Missouri has 24 species of asters, plus many hybrids and varieties, that provide late-season nectar for insect pollinators. As they age, the yellow center turns reddish. This tells pollinators to bypass the ones that are already pollinated. Keeping the old flowers open alongside the newer ones also helps draw in pollinators from greater distances.



Ironweed

Natural Events to See This Month

Here's what's going on in the natural world.



Tree swallows migrate south.



Freshwater jellyfish swim in warm, still ponds and lakes.



Female black-and-yellow garden spiders build conspicuous webs.

The Early Show

When most people think of fall color, they think of October, and rightfully so. But, if October is the grand finale, September is the matinee. Fall color season begins with the brilliant reds of sumacs, Virginia creeper, and dogwoods contrasting with the yellow, early turning trees such as hackberries, black walnut, green ash, and cottonwood. Sassafras is often overlooked as a fall color tree, but it's truly one of our standouts. Early fall is the one time of year we can appreciate poison ivy — for its brilliant red color. So don't wait for October. Get out and enjoy the early show!

VIRTUAL

Dalton Happenings: September

Tuesday • Sept. 12 • 12:30-1 p.m.

Online

Registration required by Sept. 11. For more information, call 888-283-0364 or visit short.mdc.mo.gov/4W2.

All ages.

Come join us for an inside look at what staff do to keep the range up and running. We will take you to a part of the range and show you how we take care of things, from the target frames to filling the trap and skeet machines. We will also discuss upcoming programs. This is a new monthly virtual series that we are doing for our shooters and visitors. You will receive a link to log on the morning of the program.

SOUTHWEST REGION

National Hunting and Fishing Day

Saturday • Sept. 23 • 11 a.m.-4:30 p.m.

Andy Dalton Shooting Range

4897 N. Farm Road 61, Ash Grove, MO 65604

Registration not required. For more information, call 417-742-4361 or visit short.mdc.mo.gov/4W6.

All ages.

Each year on the fourth Saturday in September, we celebrate National Hunting and Fishing Day by providing one free hour of shooting on the rifle/pistol range, shotgun patterning range, or the archery range. For shotgun shooters, we allow one free round of trap or skeet. Bring your own firearms and ammunition to participate. Regular check-in, hours, and fees apply for other hours/rounds needed.



American white pelican

Fall Visitor

American white pelicans migrate through Missouri in the fall as they head for their wintering locations south. Polish up those binoculars and get to a body of water because these visitors won't stay long. These immense white waterbirds are fun to watch.

What's That Sound?

Plan a self-guided driving tour to Peck Ranch Conservation Area or Current River Conservation Area. Not only will you see beautiful fall color, but you might hear some unusual sounds – from Missouri's elk herd. Elk are vocal mammals issuing a variety of calls and sounds, including the male's well-known screaming "bugle," grunts, mews, and barks. You may also hear a "knuckle cracking" sound, produced by an elk's front legs when walking as a means of maintaining contact with the herd when moving through heavy cover. These members of the deer family are a sight to behold.



POACHING HURTS MISSOURI WILDLIFE

and those who appreciate it as hunters, anglers, and nature watchers. Missourians can protect nature by reporting poaching to the Operation Game Thief (OGT) hotline.

If you witness or suspect a wildlife violation, report it to your local conservation agent or call the OGT 24-hour, toll-free number 800-392-1111. You may remain anonymous, and you may be considered for a reward.



Places to Go

NORTHWEST REGION

Crooked River Conservation Area

A dove hunting destination

by Larry Archer

• The story of the sunflower fields of Crooked River Conservation Area (CA) could be summed up with Charles Dickens' *Tale of Two Cities*: "It was the best of times; it was the worst of times."

Throughout the summer, the fields are at their bright, tall, showy best. By September, the fields have lost their beauty but can now fulfill their purpose — as feed for doves in preparation for dove season, said Wildlife Biologist Brian Gilbert.

"For September, the dove opener is the biggest deal," Gilbert said. "We do about 60 acres of sunflowers every year. It's a very highly used area that first week of dove season."

And while the sunflower fields are the attraction for many, they are only a small part of Crooked River CA's 1,420 acres in Ray County, northeast of Kansas City.

For those not dove hunting, the area's diverse habitats offer other outdoor options, he said.

"Based on the diversity of the area, there's opportunity to see almost anything down there," he said. "We've got a small wetland on the north end, there's three miles of riparian corridor frontage along the Crooked River, and we've got really nice pollinator strips out in the crop fields."



"There's certainly going to be a lot of migrating neotropical birds coming through there, probably in September and October."

—Wildlife Biologist
Brian Gilbert



WHAT TO LOOK FOR WHEN YOU VISIT



Timber rattlesnake



Summer tanager



Carolina wren



Killdeer



CROOKED RIVER CONSERVATION AREA

consists of 1,420 acres in Ray County. From Richmond, take Highway 13 north 5 miles, then Route FF west 3 miles, and then Wildlife Road north 1 mile to area entrance.

39.3852, -94.0397

short.mdc.mo.gov/4Wn 660-646-6122

WHAT TO DO WHEN YOU VISIT



Biking Service roads totaling 3.4 miles open to bicycle use.



Birdwatching The eBird list of birds recorded in September at Crooked River CA is available at short.mdc.mo.gov/4W7.



Camping Individual campsites.



Fishing Black bass, catfish, crappie, sunfish.



Hiking Service roads totaling 3.4 miles open to hiking.



Hunting Deer and turkey

Regulations are subject to annual changes. Refer to short.mdc.mo.gov/Zjw for regulations.

Also dove, quail, rabbit, and squirrel



Trapping Special use permit required.

Wild Guide



Sassafras

Sassafras albidum

Status

Native; threatened by laurel wilt

Size

Height: to 60 feet

Distribution

Nearly statewide except northwest quarter of the state



Did You Know?

European explorers in the 1500s and 1600s thought sassafras was a cure-all. Soon, Europeans were paying high prices for its import, but this was back when virtually any aromatic plant was considered curative for almost any ailment. Since then, science has cast doubt on its efficacy.

Sassafras is a short- to medium-sized tree, often forming colonies from root sprouts along the border of dry woods, glades, prairies, pastures, fence rows, and thickets. Its aromatic bark is reddish-brown to gray. Sassafras produces small, yellow flowers from April through May, and bears dark blue, berrylike fruit from August through October. Laurel wilt disease, which is spreading in North America, kills sassafras trees and their relatives in the laurel family. The fungal disease, and the beetles that transmit it, is carried on imported wood packing materials, but hasn't arrived in the Show-Me State.



HUMAN CONNECTIONS

Sassafras was the traditional flavoring for root beer and thickening agent for Creole gumbo. Many people still enjoy sassafras tea – hot or cold, sweetened or unsweetened. You can make sassafras jelly, which pairs well with wild meats and pork. You can use the young leaves, buds, and twigs in soups and for making teas. The young raw leaves add a spicy touch to a tossed salad. When dried, the leaves are used in soups and creole dishes.



ECOSYSTEM CONNECTIONS

Sassafras fruits are eaten by many species of birds, including bobwhites, woodpeckers, mockingbirds, catbirds, flycatchers, and wild turkey. The leaves are important to several species of moths and butterflies, especially spicebush swallowtails. The females can "taste" leaves with their forelegs, so when they land on a sassafras leaf, they know they have found a suitable egg-laying site. Their caterpillars, sometimes called "leaf rollers," create shelters to hide in by day. At night, the larvae feed on sassafras leaves.

Outdoor Calendar

MISSOURI DEPARTMENT OF CONSERVATION

Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at short.mdc.mo.gov/Zib.



FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:

- ▶ Catch-and-Keep:
May 27, 2023–Feb. 29, 2024

Bullfrog, Green Frog

June 30 at sunset–Oct. 31, 2023

Nongame Fish Gigging

Impounded waters, sunrise to sunset:
Feb. 16–Sept. 14, 2023

Streams and impounded waters,
sunrise to midnight:

Sept. 15, 2023–Feb. 15, 2024

Paddlefish

On the Mississippi River:
Sept. 15–Dec. 15, 2023

Trout Parks

State trout parks are open seven days a week
March 1 through Oct. 31.

Catch-and-Keep:
March 1–Oct. 31, 2023

Catch-and-Release:
Nov. 10, 2023–Feb. 12, 2024

*Only hunters selected through a random drawing may participate in these hunting seasons.

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at short.mdc.mo.gov/Zib. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at short.mdc.mo.gov/Zzf.

HUNTING



Black Bear*

Oct. 16–25, 2023

Bullfrog, Green Frog

June 30 at sunset–Oct. 31, 2023

Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

Crows

Nov. 1, 2023–March 3, 2024

Deer

Archery:

Sept. 15–Nov. 10, 2023
Nov. 22, 2023–Jan. 15, 2024

Firearms:

- ▶ **New!** Early Antlerless Portion (open areas only): Oct. 6–8, 2023
- ▶ Early Youth Portion (ages 6–15): Oct. 28–29, 2023
- ▶ November Portion: Nov. 11–21, 2023
- ▶ **New!** CWD Portion (open areas only): Nov. 22–26, 2023
- ▶ Late Youth Portion (ages 6–15): Nov. 24–26, 2023
- ▶ Late Antlerless Portion (open areas only): Dec. 2–10, 2023
- ▶ Alternative Methods Portion: Dec. 23, 2023–Jan. 2, 2024

Doves

Sept. 1–Nov. 29, 2023

Elk*

Archery:

Oct. 21–29, 2023

Firearms:

Dec. 9–17, 2023

Groundhog (Woodchuck)

May 8–Dec. 15, 2023

Opossum, Raccoon, Striped Skunk

Aug. 1–Oct. 15, 2023

Pheasant

Youth (ages 6–15):

Oct. 28–29, 2023

Regular:

Nov. 1, 2023–Jan. 15, 2024

TRAPPING

Opossum, Raccoon, Striped Skunk

Only foot-enclosing traps and cage-type traps may be used.

Aug. 1–Oct. 15, 2023



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on Instagram**

@moconservation

Sandwiched between the hottest time of the year and the coldest, autumn is known as a cooling-off season, a time of transition. This pair of frolicking fawns is a perfect example of transition — they will continue to mature, losing their spots along the way. As the crisp autumn air rolls in, explore the changing wonder around you. What will you discover?

by **Noppadol Paothong**

Free to Missouri households

To subscribe, cancel your subscription, or update your address, visit mdc.mo.gov/conmag.